

1. Identification of the Substance/Preparation & the Company/Undertaking

Identification of the Substance/Preparation	:	Nitrogen
Chemical Formula	:	N ₂
Synonyms	:	Nitrogen, Nitrogen Gas, Gaseous Nitrogen, GAN
Use of the Substance/Preparation	:	General Industrial
Company	:	Air Products Plc Hersham Place, Molesey Road Walton-On-Thames, Surrey KT12 4RZ
Telephone	:	+4408457020202
Emergency Telephone	:	Cylinder 0500 020202 / +44 1270 53 1605 Bulk 0500 020202 / +44 1270 50 6100 Medical 0500 020202 / +44 1270 53 1605

2. Composition/Information on Ingredients

Substance/Preparation : Substance

Components	ELINCS/EINECS	CAS-No.	Concentration	Classification
Nitrogen	231-783-9	7727-37-9	100	

Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

3. Hazards Identification

Emergency Overview

High pressure gas.
Can cause rapid suffocation.
Self contained breathing apparatus may be required.

Potential Health Effects

Inhalation	In high concentrations may cause asphyxiation. Asphyxiation may bring about unconsciousness without warning & so rapidly that the victim may be unable to protect themselves.
Eye Contact	No adverse effect.
Skin Contact	No adverse effect.
Ingestion	Ingestion is not considered a potential route of exposure.
Chronic Health Hazard	Not applicable.



Aggravated Medical Condition

None.

Target Organs

None.

Symptoms

Exposure to oxygen deficient atmosphere may cause the following symptoms: Dizziness, Salivation, Nausea, Vomiting & loss of mobility/consciousness.

Environmental Effects

Not harmful.

4. First Aid Measures

General Advise

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victims warm & rested. Call a doctor. Apply artificial respiration if breathing has stopped.

Eye Contact

Not applicable.

Skin Contact

Not applicable.

Ingestion

Ingestion is not considered a route of exposure.

Inhalation

Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen.

5. Fire Fighting Measures

Suitable Extinguishing Media

All known extinguishing media can be used.

Specific Hazards

Upon exposure to intense heat or flame, cylinder will vent rapidly & or rupture violently. Product is non flammable & does not support combustion. Move away from container & cool with water from a protected position. Keep containers & surroundings cool with water spray.

Special Protective

Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental Release Measures

Personal Precautions

Evacuate personnel to safe areas. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Monitor oxygen level. Ventilate the area.

Environmental Precautions

Do not discharge into any place where its accumulation could be dangerous. Prevent further leakage or spillage if safe to do so.

Method of cleaning up

Ventilate the area.

Additional Advice

If possible, stop flow of product. Increase ventilation in release area & monitor oxygen level. If leak is from cylinder or cylinder valve, call the Air Products emergency telephone number. If the leak is in the users system, close the cylinder valve, safely vent the pressure & purge with an inert gas before attempting repairs.

7. Handling & Storage

Handling

Protect cylinders from physical damage; do not drag, roll, slide or drop. Do not allow storage area temperature to exceed 50°C. Only experienced & properly instructed persons should handle compressed gasses. Before using the product, determine its identity by reading the label. Know & understand the properties & hazards of the product before use. When doubt exists as to the exact handling procedure, contact the supplier. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. When moving cylinders, even for short distances, use a cart designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either wall or bench or placed in a container stand & is ready for use. Use an adjustable strap wrench to remove over-tight or rusted caps. Before connecting the container, check the complete gas system for suitability, particularly for pressure rating & materials. Before connecting the container for use, ensure that back feed from the system into the container is prevented. Ensure the complete gas system is compatible for pressure rating & materials of construction. Ensure the complete gas system has been checked for leaks before use. Empty suitable pressure regulating devices on all containers when the gas is being emitted to systems with lower pressure rating than that of 5he container. Never insert an object into valve cap openings. Doing so may damage the valve causing a leak to occur. Open valve slowly. If the user experiences any difficulty operating the cylinder valve, discontinue use & contact the supplier. Close container valves after each use & when empty, even if still connected to equipment. Never attempt to remove or repair container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Replace outlet caps or plugs as soon as the container is disconnected from equipment. Do not subject cylinders to abnormal mechanical shocks, which may cause damage to valves or safety devices. Never attempt to lift a cylinder by its valve protection cap or guard. Do not use containers as rollers or supports or for any other purpose than to contain the gas as supplied. Never strike an arc on a compressed gas cylinder or make a cylinder a part of an electrical circuit. Do not smoke whilst handling products or cylinders. Never re-compress a gas or mixture without first consulting the supplier. Never attempt to transfer gasses from one cylinder to another. Always use a backflow protective device in piping.

Storage

Full containers should be stored so that the oldest stock is used first. Containers should be stored in a purpose built compound, which should be well ventilated, preferably to open air. Stored containers should be periodically checked for general condition & leakage. Observe all regulations & local requirements regarding storage of the containers. Protect containers stored in the open against rusting & extremes of weather. Containers should not be stored in conditions likely to encourage corrosion. Containers should be stored in the vertical position & properly secured to prevent toppling. The container valves should be tightly closed & where appropriate valve outlets should be plugged. Container valve guards or caps should be in place. Store containers in a location free from fire risk & away from heat. Full & empty cylinders should be segregated.

Technical Measures

Containers should be segregated in the storage area according to the various categories (e.g. flammable, toxic, etc.) & in accordance with local regulations. Keep away from combustible material.

8. Exposure Controls & Personal Protection

Respiratory Protection

Self contained breathing apparatus or positive pressure airline with mask are to be used in oxygen-deficient atmosphere. Air purifying respirators will not provide protection. Users of breathing apparatus must be trained.

Hand Protection

Sturdy work gloves are recommended for handling cylinders. The breakthrough time of the selected gloves must be greater the intended use period.

Eye Protection

Safety glasses are recommended when handling cylinders.



Skin & Body Protection	Safety shoes are recommended when handling cylinders.
Special Instructions	Ensure adequate ventilation, especially in confined areas.
Remarks	Simple asphyxiant

9. Physical & Chemical Properties

Form	Compressed gas.
Colour	Colourless gas.
Odour	No odour warning properties.
Molecular weight	28g/mol
Relative Vapour Density	0.97 (air = 1)
Density	0.0012g/cm ³ at 21°C
Specific Volume	0.8615m ³ /kg at 21°C
Boiling Point	-196°C
Critical Temperature	-147°C
Melting Point	-210°C
Water Solubility	0.02g/l

10. Stability & Reactivity

Stability	Stable under normal conditions.
Hazardous Decomposition	None.

11. Toxicological Information

No known toxicological effects from this product.

12. Ecological Information

Ecotoxicity Effects

Aquatic Toxicity	No data available.
Toxicity to other Organisms	No data available.

**Persistence & Degradability**

Mobility	No data available.
Bioaccumilation	No data available.
Further Information	No ecological damage caused by this product.

13. Disposal Considerations

Waste from Residues	Contact supplier if guidance is required. Return unused product in original cylinder to supplier.
Contaminated Packaging	Return cylinder to supplier.

14. Transport Information**ADR**

Proper Shipping Name	Nitrogen, Compressed
UN/ID No.	UN1066
Labelling ADR	2.2
ADR/RID Hazard No.	20

IATA

Proper Shipping Name	Nitrogen, Compressed
Class	2.2
UN/ID No.	UN1066

IMDG

Proper Shipping Name	Nitrogen, Compressed
Class	2.2
UN/ID No.	UN1066

RID

Proper Shipping Name	Nitrogen, Compressed
Class	2.2
UN/ID No.	UN1066

Further Information	Avoid transport on vehicles where the load space is not separated from the drivers' compartment. Ensure vehicle driver is aware of the potential hazards of the load & knows what to do in the event of an accident or emergency.
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15. Regulatory Information

Labelling According to EEC Directive

Number in Annex 1 of Dir Not included ion annex 1.
67/548

Hazard Symbol No EC Labelling required.

Country	Regulatory List	Notification
USA	TSCA	Included on inventory
EU	EINECS	Included on inventory
Canada	DSL	Included on inventory
Australia	AICS	Included on inventory
Japan	ENCS	Included on inventory
South Korea	ECL	Included on inventory
China	SEPA	Included on inventory
Philippines	PICCS	Included on inventory

Referees

Air Products & Chemicals Inc, Global EH & S Product Safety Department.